BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

ECZEMA

Regarding Etiology and Classification

STUART C. WAY, M.D. (490 Post Street, San Francisco).—The word "eczema" comes from the Greek, and means to boil out. This origin undoubtedly accounts for its wide use, not only by the laity but by the general practitioner, for many of the dermatoses create this impression, at least to the uninitiated.

As a result of advances made in dermatology in recent years, and as the disease has been divided into various groups, according to their etiology, the use of the word is becoming more restricted.

Group 1. *Infantile eczema,* which is commonly regarded as an allergic phenomenon and often due to milk; therefore external therapy is not always permanent in its results. Satisfactory results are often best obtained from proper adjustment of the diet.

Group 2. *Dermatomycosis* in which the exciting cause is a fungus. Some of the common fungi include: trichophyton, aspergillus, epidermophyton, and monilia.

Group 3. *Seborrheic dermatitis* due to bacterial infection. Such infections may persist undiscovered in the sinuses, mastoid cells, gallbladder, and other organs; and last, but not least, in the prostate. Heredity plays an important rôle and a tendency toward the disease often runs in certain families and throughout several generations.

Group 4. *Occupational dermatitis* due to contact with such irritants as turpentine and its derivatives; cement dust, acids, alkalis, and various other chemicals. Vulnerability of the skin varies greatly with different individuals at different ages and in the same person at different times, according to the state of his health. The preventive treatment here is naturally the avoidance of contact with any of the known irritants.

Group 5. *Neurodermatitis* with frequent lichenification in which there is a functional nervous disturbance. Proper diet is important, for many a case of neurodermatitis has been cleared up by its correction, together with local applications and röntgen radiation.

Group 6. *Allergic dermatitis* forms an altogether too large a group which is becoming as great an offender as "eczema" itself did in the past. Only too often this diagnosis is made without sufficient reason. Without doubt the phenomenon of sensitization is often present in an individual, but one should not overlook the fact that many substances produce a dermatitis because of their irritating properties. In every instance the cause should be searched for and removed, not only for curative reasons, but for the prevention of recurrences. The appearance of a lesion is often deceiving as far as etiology is concerned, for local irritation can cause a simple erythema, a papular or vesicular eruption or, in the course of time, a resultant thickened and squamous condition of the skin.

Some of the common external causes are clothing, such as wool and fur; cosmetics; plants, including primroses, lilies, and chrysanthemums; soaps and various chemicals, including the dyes. The internal causes are innumerable and vary from the by-products of foods to the use of certain drugs.

Group 7. *Varicose eczema,* seen in middle and late adult life, occurs as a result of varicose veins, which produce a circulatory disturbance. Vein injections and ligations offer a solution when the deeper vessels are unobstructed. Rest and elevation of the limbs are equally important.

While successful treatment depends upon the removal of the cause rather than upon any form of external therapy, yet x-rays and soothing local applications cannot be safely nor entirely disregarded. In the past the use of the term "eczema" was readily accepted by the laity and covered a multitude of diagnostic errors on the part of the physician, but now it is merely an incentive to search for the true cause.

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Regarding Diagnosis

H. J. TEMPLETON, M.D. (3115 Webster Street, Oakland).—The use of the term "eczema" has been considered by some as indicating the height of dermatologic ignorance, and the term itself has been called the wastebasket of dermatology. Some purists have bent over backward in their attempts to completely eliminate this word and to substitute for it the term "dermatitis." This reaction has been caused by the inexperienced, who in careless usage of the diagnosis "eczema" have included all dermatoses which they could not classify otherwise. Such usage should be regarded as an indication of weakness on the part of the observer rather than an inaccuracy of the term.

To one who favors the retention of the term "eczema," such a diagnosis refers to a symptom complex, a picture painted on the skin, regardless of the etiology. Having recognized such a picture, the observer knows that he must attempt to discover its artist; that is, he must immediately start hunting for the etiologic factor. An intelligent handling of a case of eczema demands an accurate diagnosis of the cutaneous lesions involved, but even more so does it demand an accurate diag-

nosis of the factors producing the lesions. Unless one is etiologically minded in diagnosing eczema, one can be hopelessly lost.

Eczema has been described[1] as "An acute or chronic inflammatory disease characterized by erythema, papules, vesicles, pustules, scales, scabs or crusts, alone or in combination, with associated thickening and infiltration, and more or less attendant itching and burning." In dermatologic textbooks many pages are usually devoted to the differentiation of eczema from various dermatoses such as impetigo, lichen planus, and psoriasis. Such a method of approach is obviously impossible in a paper of this length. Therefore I shall attempt to draw from my own experience some points which have aided me in the diagnosis of this age-old condition. In so doing I shall be obliged to take for granted some knowledge on the part of my readers of the clinical picture of eczema.

Eczema of the scalp is not uncommon and is, most frequently, of the seborrheic variety. Such an eczema is associated with a rather severe dandruff and with reddening and itching of the scalp. It has quite a tendency to involve the retroauricular area and to creep downward onto the forehead and eyebrows. In severe cases it may involve the sternal and interscapular regions and also the axillae and groin. It is sometimes quite difficult to differentiate seborrheic eczema of the scalp from psoriasis, but in such instances it will be helpful to search for seborrheic eczema elsewhere, in its favorite areas just mentioned, and for psoriasis at its sites of predilection, the elbows and knees. It must also be differentiated from eczema of the scalp due to chemical irritants contained in various hair tonics, orris root shampoos, hair dyes and pomades. Here, of course, the diagnosis rests upon the history and upon recovery following removal of the suspected irritant.

Eczema of the face is often of the seborrheic variety and generally occurs on a skin which is excessively oily. The nasolabial fold is its favorite haunt as well as the area between the eyebrows and the eyebrows themselves. It must be differentiated from the eczemas of the face which so frequently are caused by external irritants such as orris root face powders, many of the newer high-powered facial creams, skin foods, and bleaches as well as some shaving lotions and creams. Pustular eczema of the face may come into diagnostic confusion with sycosis vulgaris, but if one remembers that this latter entity is a pustular folliculitis, characterized by pustules pierced by hairs, the problem is clarified. Moreover, sycosis vulgaris is limited to the bearded areas while pustular eczema occurs on the nonbearded as well as the bearded portions of the face. The typical "stuck on" yellow crusts of impetigo contagiosa should separate this dermatosis from pustular eczema. The sign which has helped me the most in diagnosing impetigo is the loosening of the epidermis around the periphery of the lesion. When it is wiped with a piece of gauze it separates and leaves a moist reddened denuded area around the periphery of the crusted area.

[1] Sutton, Richard L.: Diseases of the Skin, eighth edition, Mosby, St. Louis.

Eczema of the axillae and groin may be seborrheic in origin. I have found it difficult in many instances to differentiate such cases from an eczema produced by fungi, that is, from epidermomycosis. In solving such a problem, one should look for evidences of seborrhea elsewhere, as mentioned above, and should examine scrapings from the periphery of lesions for fungi. In seborrheic eczema of the axillae the borders of the lesions are not as sharply marginated as those of epidermomycosis. Here again, external irritants enter the picture, for many cases of eczema of the axilla have been caused by deodorants, depilatories, and shaving.

Eczemas of the hands generally turn out to be due to either external irritants or to fungus infections. The differentiation of the two varieties is extremely difficult and yet is of the greatest importance from the industrial standpoint. Moreover, when both factors are operative in producing a given case of eczema it takes a second Solomon sitting in judgment to decide between the claims of the patient and the interest of the insurance carrier. In the trade or occupational eczemas due to external irritants there is often a history of either the use of a new substance in the industry (such as the substitution of the synthetic "turps" for pure turpentine in paints) or an unusually intimate or prolonged contact with the substance at fault. If the patient is honest and unprejudiced his history may be of value in solving the problem, but in some industrial cases it may have to be accepted with reservations. It is in such instances that we have received a great deal of help from the so-called "patch test" of Bloch and Jadassohn. This is of value not only in industrial cases, but also whenever any external irritant is suspected of being the cause of a given eczema. Specifically we have found it worth while in diagnosing cases of eczema of the neck due to furs and perfumes, in eczema of the face due to orris root-containing powders, in eczema of the axilla caused by a dyed dress, in eczema of the face of a Japanese florist caused by chrysanthemums, in eczema of the hands and arms caused by primroses, in a recent example of eczema of the hands and arms from sensitization to turnip leaves, in eczema of the hands from turpentine and "turps" in painters, and many other similar instances. The technique of this test is to apply some of the suspected substance to the flexor surface of the patient's forearm and to cover it with rubber dental dam, sealing the edges with adhesive tape. The patch is removed after twenty-four hours and the skin is examined for evidences of irritation. If there is any marked degree of erythema or vesiculation the test is considered as positive. Inasmuch as some irritants do not give an immediate reaction the test should be read daily for a week in order to avoid missing any delayed reactions. In applying this test two precautions should be taken. First, the strength of any substance which is to be applied should be such as to produce no reaction on a normal skin; second, the patient should be instructed to report to the physician at once in case of any degree of

discomfort or irritation from the test; this reduces the danger of severe positive reactions.

The diagnosis of the mycotic eczemas or epidermomycoses of the hands depends upon the demonstration of fungi in scales taken from the lesions or in the caps of vesicles which have been clipped off. Such material is inverted, placed on a slide, covered with two or three drops of 30 per cent potassium hydroxid and a cover glass, allowed to stand for twenty-four hours and examined with the high dry lens with the iris diaphragm almost closed. One should be careful not to confuse cell borders with true fungi. If in doubt, the material from vesicles and scales can be sent to the laboratory for cultivation on Sabouraud's medium.

Most *eczemas of the feet* are caused by fungus infections. The crusted weeping patches on the dorsum, lateral border or sole of the foot known as "eczematoid ringworm," the vesicles seen on the soles or lateral borders of the toes and the sodden macerated, fissured areas between the toes, are all examples of one basic process. A smaller percentage of the eczemas of the feet may be caused by irritants such as dyes in hose or chemicals in shoe leather. If the two varieties cannot be differentiated on clinical grounds, one can have recourse to patch tests and examination for fungi in settling the problem.

Because of limitation of space, I have not discussed the diagnosis of the eczemas caused by food allergy, hyperglycemia, nitrogen retention (cardiovascularrenal breakdown), focal infection—in brief, the eczemas of endogenous origin. Suffice it to say that no consideration of an obscure case of eczema is complete without an appraisal of such internal factors. It is not sufficient that one should be able to make a clinical diagnosis of eczema. Rather, one must also recognize the extreme importance of diagnosing the cause. Only by being etiologically minded can we properly diagnose "eczema" and lift the cloud of opprobrium that has fallen upon the use of this term.

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Regarding Treatment

SAMUEL AYRES, JR., M. D. (2007 Wilshire Boulevard, Los Angeles).—The treatment of eczema may be considered from two points of view—symptomatic or palliative and etiologic or curative. Inasmuch as eczema is not a disease entity but merely a cutaneous reaction or symptom capable of being produced by a wide variety of causes, it becomes obvious that a clear perception of the underlying cause in each individual case is essential for adequate and rational treatment. This calls for a thorough-going history, a careful examination, and such laboratory procedures as may be indicated. Unfortunately, owing to the present limitations of our knowledge, many cases will be encountered in which no definite etiology can be discovered. The most that can be done in such cases is to relieve that patient's discomfort to the best of our ability.

Another complicating factor, however, presents itself at this point. Treatment which would be immensely helpful to an attack of eczema in one patient may be distinctly irritating to another, or in a given patient, treatment which may be beneficial now might be entirely inadequate three weeks later. Aside from the matter of personal idiosyncrasy, which is always an important factor in dermatology, treatment will be effective in proportion to an understanding of the cutaneous pathology. In other words, a given case of eczema may pass through a series of stages, it might become temporarily arrested at any one stage, or it may assume certain less common secondary appearances. The treatment will vary according to the pathologic development present at the time the case is seen. This can be roughly illustrated by the following diagram (Chart 1):

CHART 1.—*Usual Pathological Changes*

Erythema, Pruritus, Edema, Vesiculation	Antipruritic and astringent "shake lotions."
Vesiculation, Exudation, Crusting	Astringent wet dressings if inflammation is severe, bland ointments if mild. Stimulating ointment if this stage is prolonged.
Subsistence, Desquamation	Bland ointments, mildly stimulating, if this stage is prolonged.

Secondary pathological changes:

Lichenification (thickening)—Stimulating ointments, such as coal tar.

Papule formation—Shake lotions or mildly stimulating ointments.

Pus formation—Antiseptic and astringent wet dressings.

The following are a few of the type preparations mentioned:

Antipruritic and astringent shake-lotion:

℞ Phenol	2	
Zinc oxid	7	5
Calamin	7	5
Glycerin	15	
Lime water ad	240	nx

Sig.—Apply frequently.

Astringent wet dressing:

℞ Liquor aluminum acetate 480.

Sig.—Dilute with water 1 to 4 or 5 and apply as wet dressing.

Bland ointment:

℞ Zinc oxid	7	5
Cornstarch	7	5
Petrolatum	15	

Sig.—Apply twice daily.

Mildly stimulating ointment:

℞ Naftalen (Stiewe)	10
Zinc oxid	10
Cornstarch	10

Sig.—Apply twice daily.

Stimulating ointment:

℞ Crude coal tar	4
Zinc oxid	2
Cornstarch	15
Petrolatum	15

Sig.—Apply twice daily.

(Note: This ointment must be made up as indicated, and it should be black, not grey, brown, or green. Since coal tar sensitizes the skin to ultra-violet light, inflammation will follow if areas recently treated with coal tar are exposed to the ultra-violet lamp or to sunlight.

Antiseptic and astringent wet dressing:

℞ Copper sulphate	1	6
Zinc sulphate	5	6
Saturated camphor water ad	240	

Sig.—Dilute two tablespoons to a glass of water and apply as a wet dressing.

Cocoa butter is very comforting in cases of severe exfoliative dermatitis or other dry generalized types of eczema. It is also useful in those cases of eczema in elderly people whose skins are dried out from excessive bathing.

Recently, eczematoid ringworm or epidermophytosis has received considerable attention. This is usually distinguished from eczema, but many cases are so similar that clinical differentiation is impossible. Cases that are proven by microscopic examination of scales or vesicles to be due to fungi usually respond to Whitfield's ointment, a satisfactory formula for which is:

℞ Salicylic acid 2
Benzoic acid 4
Benzoinated lard..... 30

This should be applied twice daily until the microscope proves the infection to be eradicated. The bedroom and bathroom, in which have been placed all shoes, socks, slippers, bath mats and many other articles which have come in contact with the infection, should be fumigated with a formaldehyde candle for four hours to prevent reinfection.

In addition to the lesions in which fungi are actually present, the infection is capable under certain circumstances of producing eczematoid lesions on other parts of the body, especially the hands, in which fungi are not present. These secondary lesions are known as "phytids" and probably represent an allergic reaction to the infection, which is most commonly on the feet. The successful treatment of this type of "eczema" obviously depends upon the discovery and antiparasitic treatment of the primary focus. In many instances the patients complain only of the secondary allergic lesions, which, by their conspicuous location on the hands, dwarf into insignificance the more chronic but concealed lesions on the feet or between the toes.

In addition to these drugs, roentgen rays are extremely serviceable in all stages of eczema, but should be administered only by one who is thoroughly familiar with therapeutic x-ray technique. The use of roentgen rays alone seldom results in a permanent cure, and there is great danger of overtreating a recurrent disease. Except under unusual circumstances the dose should not exceed one-quarter of an erythema dose, unfiltered, and should not be given oftener than once a week nor for more than fifteen consecutive times with a rest of two weeks after the seventh dose, nor for more than a total of thirty doses to any one area during the life of the patient. Smaller doses are indicated in the presence of very acute inflammations, and slightly larger doses are permissible in some of the chronic thickened lesions.

Ultra-violet light in suberythema or mild erythema doses is beneficial in some cases of subacute or chronic eczema, and in localized areas of long standing a vigorous erythematous reaction is often beneficial. Small doses of x-ray are usually much more effective, however. Ultra-violet light should be used with the greatest caution in cases of eczema showing a predilection for the exposed areas, such as the face, neck, and arms. Eczema in such locations is sometimes due to an idiosyncrasy to the ultra-violet rays in sunlight and probably would be much aggravated by lamp treatments. Subacute and chronic arsenic poisoning as well as foci of infection frequently sensitize the skin to sunlight.

Eczematous areas should be protected as far as possible from contact with external irritants. In this connection the term "external irritants" is purely a relative one, since substances which are entirely innocuous to a normal skin might be highly irritating to an eczematous skin. The employment of patch tests will serve to detect such external substances as might possibly be the cause of certain eczemas. But aside from the etiologic relationship, many substances encountered in daily life act as nonspecific irritants. For this reason it is important to keep all patches of eczema carefully protected by medication and bandages. Soap and water are usually definitely irritating to an eczematous skin. Where large portions of the body surface are affected, luke-warm colloid baths of short duration, and without soap, may afford considerable relief, in addition to acting as a cleansing agent. Cooked oatmeal gruel tied in a cloth bag and placed in the tub of water serves admirably for this purpose. A cup or two of cornstarch, mixed gradually with a small amount of water and heated slowly to avoid lumping, makes a smooth paste which when added to a tub of luke-warm water gives a very soothing effect to an irritated skin. After the bath the skin should be fanned or patted with a towel, but not rubbed. Under no circumstances should alcohol be used on the skin.

Systemic Treatment.—While the treatment described above is of the utmost importance in making the patient comfortable, it should be clearly recognized that it is at best palliative and is to be used as an adjunct to measures not only to cure the present attack, but to prevent recurrences if possible.

Diet is a very important part of the treatment in many cases of eczema, and sensitization to certain food proteins or food allergy is prominent among the causes of this disorder. Such a state of idiosyncrasy when determined by the skin tests or by trial diets such as have been recommended by Rowe, call for the total removal of the offending food from the dietary. A restriction of carbohydrates and fats is indicated in those cases in which a glucose tolerance test reveals a defective sugar metabolism. Reduction of starches plus the administration of enteric-coated pancreatic extract will often benefit cases of eczema in which a stool examination reveals fermentation and undigested starch granules. Recent investigations have shown that in animals a diet rich in cereals increases the irritability of the skin to a given irritant, while a diet of leafy vegetables and fruits diminishes the irritability of the skin.

A diminished gastric acidity, at times amounting to a total achylia, is occasionally encountered in eczema. In such cases the appropriate diet for such a condition, combined with dilute hydrochloric acid, should be prescribed. Severe generalized cases of eczema are occasionally seen in which a damaged liver or pathologic gall-bladder is found. Often the diseased gall-bladder is of the "silent" type, the diagnosis depending upon functional tests, etc. When such abnormalities are found and corrected, the eczema usually disappears.

Bacterial allergy manifesting itself in an eczematoid reaction to a focus of infection constitutes another important class of cases, the cure of which depends upon the eradication of the infection if possible, as in the case of infected tonsils, teeth, sinuses, prostate, appendix, et cetera, or desensitization by repeated minute doses of autogenous vaccine in cases where the infection cannot be removed. The latter situation is illustrated in those individuals who develop idiosyncrasies to some of the "normal" intestinal bacteria as pointed out by Wherry, Morris and Dorst, and Strietman. Of the more common foci of infection, the nasal sinuses are probably more often overlooked than any other.

It would be desirable for all cases of severe or chronic eczema to have the urine tested for arsenic. A negative history regarding exposure to arsenic is of no value whatever. The writer has encountered many cases of arsenical dermatitis masquerading as eczema, in whom no history of exposure could be obtained yet who responded to the prolonged administration of sodium thiosulphate. Arsenic can be stored in the tissues and so remain for months or possibly years. Sodium thiosulphate has the power of combining with the arsenic and causing it to be eliminated. The treatment is slow and should be continued for months if necessary. The drug should be given intravenously in doses of one gram dissolved in ten cubic centimeters of water, from two to four times a week, depending upon the severity of the eruption and the amount of arsenic found in the urine. The Gutzeit test is satisfactory for determining the amount of arsenic in the urine.

Nonspecific protein therapy in the form of intramuscular injections of whole blood, boiled milk, or of intradermal injections of peptone are of value in certain selected cases of chronic eczema of undetermined cause, but should not be used indiscriminately.

Studies in the mineral metabolism and the acid-base balance are being carried out, but the results are conflicting. While alkalinization has generally been regarded as desirable in eczema, some evidence has been brought forward to show that allergic diseases to which class certain types of eczema belong, are benefited by acidotic treatment. The oral administration of calcium has enjoyed an empirical reputation for many years, which has recently been strengthened by experimental studies showing the calcium-potassium ratio is an important factor in the irritability of the skin, a relative increase of calcium tending to diminish irritability, while a relative increase of potassium increases irritability.

The endocrine glands are vitally important in the proper functioning of the body, and disturbances in their secretions probably play a part either directly or indirectly in certain cases of eczema. Rational endocrine therapy in eczema, however, appears to lag behind other methods of treatment. When definite disturbances of gland function can be proven by the usual physical signs and symptoms, the appropriate glandular preparations should be administered.

Finally one must not forget that psychic causes may be all-important in the production of some cases of eczema. A careful history may reveal financial, domestic, social, or other causes of acute or chronic worry or anxiety. These psychic factors may produce a skin eruption by various channels: inhibition of gastric juice leading to improper digestion of food resulting in toxic end products, high blood sugar, endocrine imbalance, etc. Frequently a rest from routine activity or a complete change of environment will work wonders in an otherwise unexplainable eczema.

The internal administration of sedatives is sometimes necessary to control itching which has interfered with rest and sleep. Aspirin or codein are often very satisfactory for this purpose, their action in allaying itching comparing favorably with their effect on pain.

Treatment of Whooping-Cough by Means of Bordet Vaccine.—Induced by the hygiene commission of the League of Nations, Weichsel employed the Bordet vaccine in the treatment of fifty cases of whooping-cough. All the children were in the early paroxysmal stage. There was no opportunity for a prophylactic use of the vaccine during the incubation period. Those children in whom the paroxysmal stage had begun more than two weeks previous were excluded from the vaccination. The Bordet vaccine consists of a culture suspension of killed Bordet-Gengou bacilli in ampoules containing one cubic centimeter each. Six injections are supposed to be sufficient to check the whooping-cough, and they were administered at intervals of forty-eight hours. Since no special directions were given as to how the vaccine was to be administered, the author made some of the injections subcutaneously and some intramuscularly. Local and general reactions were entirely absent in either form of administration. A therapeutic effect of the vaccine was not noticeable.—*Monatsschrift für Kinderheilkunde.*

Cause of Death in Premature Births.—Creutzfeldt and Peiper describe the results of the histologic examination of the brains of seven premature infants, who all had shown before death serious respiratory disturbances. Six of them revealed no hemorrhages whatever in the brain stem, and in the seventh child there were small extravasations without reactions of the surrounding tissues, that is, so-called agonal hemorrhages. In this case there also was a slight hemorrhage from the right vena terminalis. These observations contradict the assumption of Ylppö, of Schwartz and of others who believed that the fatal respiratory disturbances in premature infants must be the result of cerebral hemorrhages. On the contrary, the observations prove that death is only the result of the immaturity of the central nervous system and of the resultant weakness of the respiratory center.—*Monatsschrift für Kinderheilkunde.*

Displacement of Heart in Pulmonary Tuberculosis.—From a review of the literature, Clayson concludes that the main causes of cardiac displacements in pulmonary tuberculosis are fibrosis and pleuropericardial adhesions, associated or not with a previous pleural effusion. Persistent afebrile tachycardia is not necessarily an indication of active disease and may be due to a displaced heart. When the roentgenogram shows a displaced heart, treatment should not be postponed till symptoms occur. A trial should first be given to breathing exercises, and then, if embarrassing symptoms develop, to phrenic evulsion. Displacements of the heart may possibly be prevented by the systematic practice of breathing exercises, begun as noticeable.—*Monatsschrift für Kinderheilkunde.*